

	seed	randomPlayer	betterPlayer
	1	2	198
	2	3	197
	3	2	198
	4	5	195
	5	4	196
	6	5	195
	7	7	193
	8	10	190
	9	5	195
	10	4	196
	11	5	195
	12	2	198
	13	6	194
	14	6	194
	15	1	199
	16	2	198
	17	3	197
	18	2	198
	19	2	198
	20	5	195
Winpercent		0.02025	0.97975

randomPlayer	maxPlayer		randomPlayer	simplePlayer
3	197		87	113
5	195		101	99
1	199		90	110
5	195		92	108
2	198		76	124
3	197		77	123
1	199		78	122
3	197		97	103
3	197		84	116
4	196		73	127
3	197		82	118
1	199		82	118
4	196		84	116
3	197		81	119
3	197		84	116
2	198		91	109
2	198		80	120
4	196		79	121
3	197		80	120
2	198		79	121
0.01425	0.98575		0.41925	0.58075

betterPlayer	maxPlayer		betterPlayer	simplePlayer		maxPlayer	simplePlayer
96	104		197	3		197	3
98	102		192	8		195	5
87	113		197	3		195	5
88	112		191	9		198	2
86	114		198	2		197	3
94	106		197	3		195	5
89	111		195	5		197	3
107	93		199	1		198	2
94	106		198	2		194	6
86	114		195	5		197	3
99	101		196	4		196	4
93	107		198	2		197	3
95	105		196	4		195	5
95	105		194	6		196	4
80	120		194	6		197	3
97	103		191	9		193	7
88	112		193	7		193	7
95	105		191	9		192	8
89	111		196	4		192	8
91	109		193	7		197	3
0.46175	0.53825		0.97525	0.02475		0.97775	0.02225

Above are the test results for every combination of player except when a player is against itself as neither have a tactical advantage so is a pointless test.

randomPlayer is the given player in domsMatch.

maxPlayer implements only tacticMaximise, playing the highest scoring domino each turn.

simplePlayer implements only special tactics, meaning it would play the optimal first turn and would try to keep the other player knocking.

betterPlayer implements both tacticMaximise and special tactics, this means it should play optimally when it can, and player highest scoring dominos

First, I tested each player against the given randomPlayer to see how much of an improvement each tactic has over not using one at all. maxPlayer has the greatest win percentage with 0.98575 followed closely by betterPlayer with 0.97975, despite performing much worst than the previous players simplePlayer showed that the tactics do cause an improvement with a 0.58075 win rate.

Then I stacked each new player against each other to see how they would perform against a smarter players. maxPlayer having the highest win rate between both games 0.97775 against simplePlayer and 0.53825 against betterPlayer, this is odd as it implements fewer tactics than betterPlayer yet wins more scenarios. Coming last was simple player losing both match ups but faired marginally better against betterPlayer than maxPlayer, 0.02475 vs 0.02225. betterPlayer performed worst than expect considering it has all tactics implemented, so it's expected to play more optimally in more

situations and therefore win more, as these tactics have been shown to work as simplePlayer works better than randomPlayer.

In conclusion, despite being able to handle more complex situations, betterPlayer is beaten by just playing the maximum scoring domino each turn. I think to beat maxPlayer, betterPlayer would need to implement more advanced tactics, primarily thinking forward and deducing the other players dominos to block and force them to have low scores, as currently betterPlayer only thinks only in very specific situations, which is proven to be worst than playing a high scoring domino.